

BNT162b2 vaccine breakthrough: Clinical characteristics of 152 fully-vaccinated hospitalized COVID-19 patients in Israel

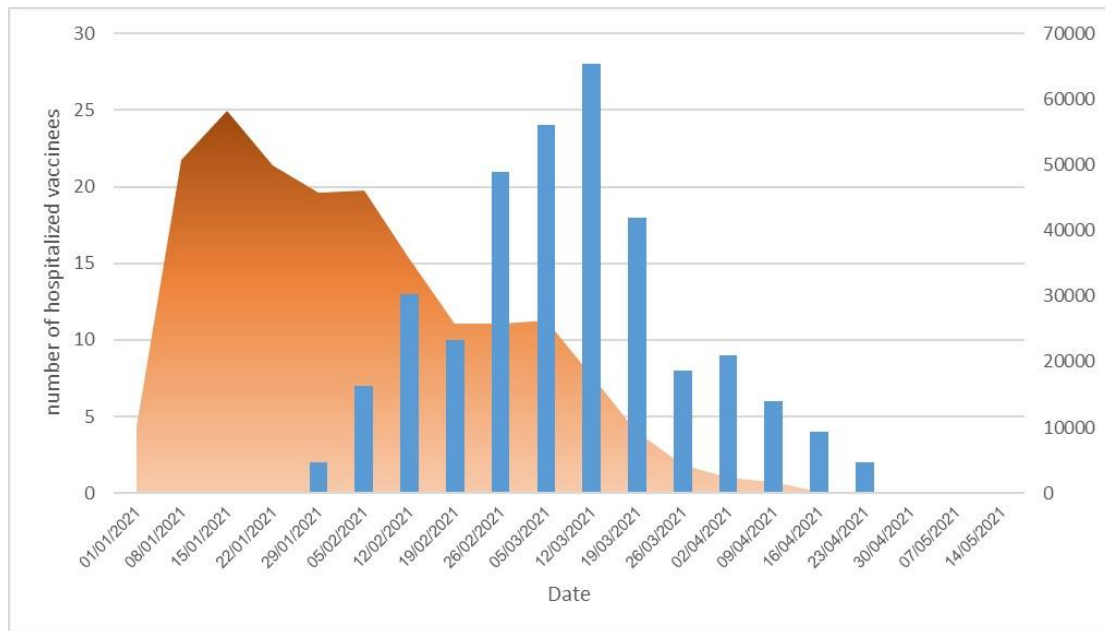
Patients with breakthrough COVID-19 that were not included in this cohort study

Not included in the cohort were patients admitted to non-participating hospitals, patients admitted to LTCF's that are considered as hospitals by the IMOH, and patients hospitalized with COVID-19 to participating hospitals, but attending staff had no knowledge of their vaccination status at time the of admission.

Epidemic curve of breakthrough infections during the study period

The incidence of new admissions reflected the national epidemic curve for COVID-19 (Figure S1). As the vaccination campaign began in the middle of December 2020, fully-vaccinated individuals increased in numbers from the 3rd week of January 2021, followed by an increase in the number of hospitalized vaccinees. Cases declined with the national decline in incidence.

Fig S1: Weekly incidence of fully-vaccinated hospitalized patients with COVID-19 and the weekly national new COVID-19 cases: The blue bars represent the weekly number of fully-vaccinated patients with COVID-19 that were hospitalized and reported in the study cohort. The orange area represents the weekly number of new PCR-proven COVID-19 patients in Israel, according to the Israeli Ministry of Health registry



Results of SARS-CoV-2 PCR testing

There was a significant difference between the Ct values of the first on-admission PCR, with a mean of 20.5 ± 5.8 vs. 23.4 ± 5.8 for patients with poor and favorable outcomes, respectively, representing a higher upper-respiratory viral load for the former group. Analyzing Ct values for different gene targets yielded similar differences: 21.7 ± 5.5 vs. 24.8 ± 5.8 for N (N=75), 18.6 ± 3.7 vs. 23 ± 6.2 for E (N=35), 21.1 ± 6 vs. 25.2 ± 6.7 for ORF1 (N=32), and 19.3 ± 5.9 vs. 23.9 ± 7 for S (N=27).